

REMARKS

This Amendment is filed in response to the Office Action mailed on August 25, 2004. All objections and rejections are respectfully traversed.

Claims 1-59 are in the case.

Claims 28 - 59 were added to better claim the invention.

Claims 11 and 19 were amended to better claim the invention.

At Paragraph 2 of the Office Action, the Abstract was objected to. Amendment of the Abstract is believed to satisfy this objection.

At Paragraph 3 of the Office Action claims 1-10, 17-19, 24-27 were rejected under 35 U.S.C. 102 (b) as being anticipated by Han et al. U. S. Patent No. 6,158,017 issued December 5, 2000 (hereinafter Han).

The present invention, as set forth in representative claim 1, comprises in part:

1. A system adapted to correct multiple storage device failures in a storage array using a combination of multiple first parity groups and a single secondary parity group, the system comprising:

a storage array having a plurality of concatenated sub-arrays, each sub-array including a set of data storage devices and a first parity storage device, the array further including a global secondary storage device associated with the storage array and holding secondary parity values for the single secondary parity group, the secondary parity values computed across the concatenation of the sub-arrays.

Han discloses two different dual parity schemes, DH and DH2. Both distribute diagonal parity across the array, by having a separate row of blocks to hold diagonal parity. Scheme DH distributes row parities in a manner similar to RAID5 across rows of the blocks, leaving the rest of the blocks to hold data. DH2 is similar, but moves the row parities to an additional disk added to the end of the array, then leaves the block in the diagonal parity stripe of that disk as a spare (it is outside of any parity calculations). Also, Han stores his diagonal parity results in a stripe across a plurality of his disks (Figs. 5, 6, 7, 8, 9, 10, 12, 13, 14, 16, 17, 18)

Applicant respectfully urges that Han has no disclosure of Applicant's claimed novel ***a storage array having a plurality of concatenated sub-arrays, each sub-array including a set of data storage devices and a first parity storage device . . . a global***

secondary storage device . . . holding secondary parity values . . . the secondary parity values computed across the concatenation of the sub-arrays.

Further, Applicant claims a novel *a storage array having a plurality of concatenated sub-arrays, each sub-array including a set of data storage devices and a first parity storage device*. That is, Applicant claims concatenating sub-arrays, where each sub-array has a first parity storage device. Then Applicant claims *a global secondary storage device . . . holding secondary parity values . . . the secondary parity values computed across the concatenation of the sub-arrays*.

Applicant respectfully urges that Han has no disclosure of Applicant's claimed *a storage array having a plurality of concatenated sub-arrays, each sub-array including a set of data storage devices and a first parity storage device*, along with Applicant's claimed novel *a global secondary storage device . . . holding secondary parity values . . . the secondary parity values computed across the concatenation of the sub-arrays*.

Still further, Han is silent concerning Applicant's claimed novel *a global secondary storage device . . . holding secondary parity values . . . the secondary parity values computed across the concatenation of the sub-arrays*. That is, Han stores his

diagonal parity values in a stripe across a plurality of disks, and is totally silent concerning Applicant's claimed novel *a global secondary storage device* used to hold Applicant's diagonal parity results.

Accordingly, Applicant respectfully urges that Han is legally precluded from anticipating the presently claimed invention under 35 U.S.C. 102 because of the absence from the Han patent of Applicant's claimed novel *a storage array having a plurality of concatenated sub-arrays, each sub-array including a set of data storage devices and a first parity storage device . . . a global secondary storage device . . . holding secondary parity values . . . the secondary parity values computed across the concatenation of the sub-arrays.*

At Paragraph 4 of the Office Action claims 11-16 and 19-20 were indicated to be allowable if written in independent form. Amendment of the claims is believed to satisfy this requirement.

All independent claims are believed to be in condition for allowance.

All dependent claims are dependent from independent claims which are believed to be in condition for allowance. Accordingly, all dependent claims are believed to be in condition for allowance.

Favorable action is respectfully solicited.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "A. Sidney Johnston", written over the printed name and address.

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